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 LANDSCAPE ARCHITECTURE | PLANNING
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 CERTIFICATE OF AUTHORIZATION NO.
 OK CA 2661 EXP. 6/30/2025



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MILESTONE	DATE
BLDG PERMIT REV.	03/22/24
SIDEWALK IN ROW	04/23/24
TRAFFIC PVMT IMPROV	05/09/24
ROW IMPROVEMENTS	05/13/24
TRAFFIC QUANTITIES	06/18/24

PLOT DATE: 6/21/24

Braum's
 Proposed Civil Plans
 151 NW Sheridan Rd
 Lawton, OK 73507

BRAUM'S
 ICE CREAM AND DAIRY STORES
 PRODUCERS, PROCESSORS & RETAILERS OF FINE DAIRY PRODUCTS
 P.O. BOX 25429, 3000 N.E. 63RD, OKLAHOMA CITY, OKLAHOMA 73121
 (405) 478-1656

PROJECT: 23244
 ISSUE DATE: 12/13/2023
 ATLAS PAGE NO: N/A
 PLAN SCALE: (H) 1"=5'
 (V) N/A

Traffic Pavement Improvements



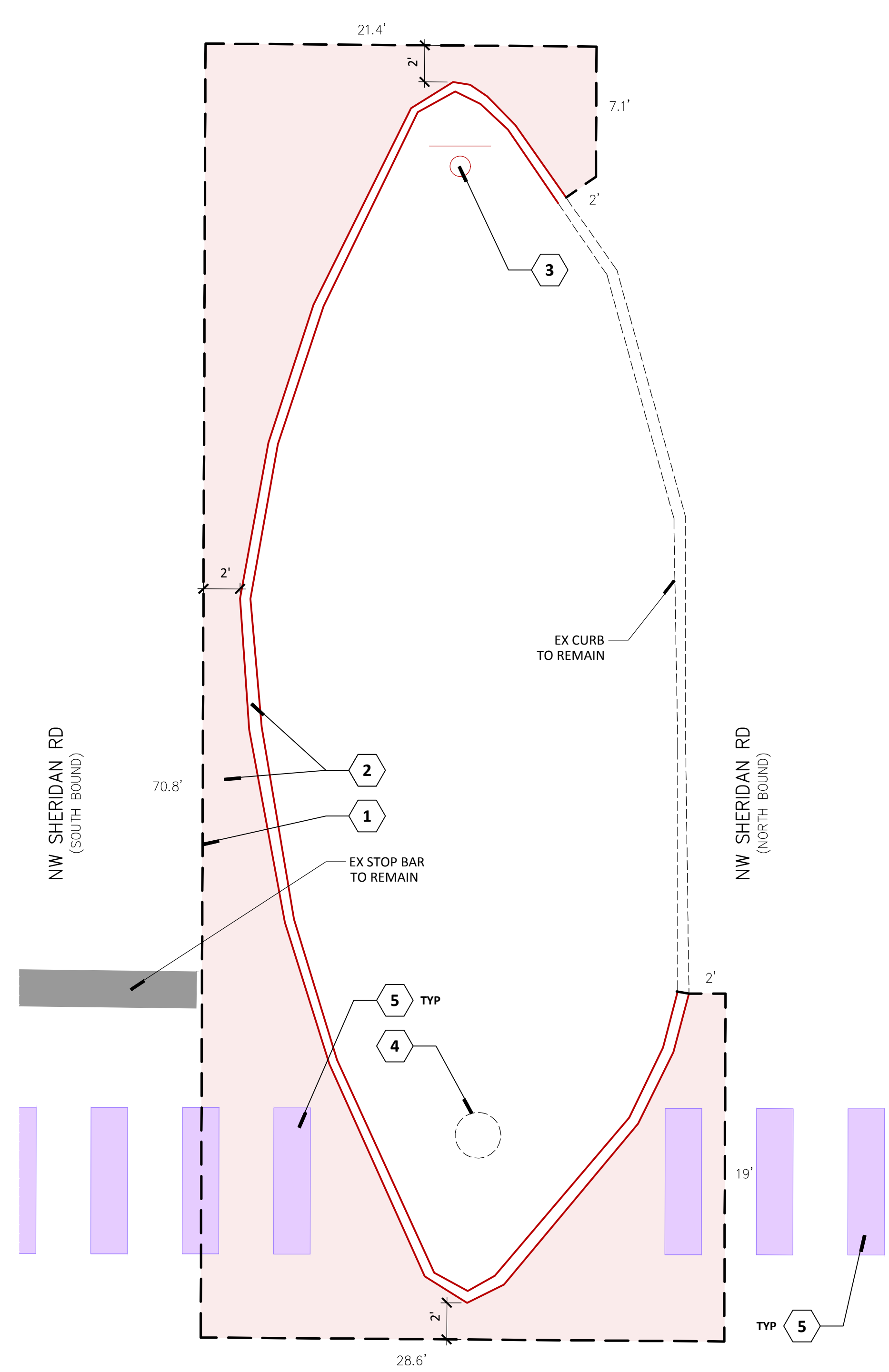
Traffic Quantities

ITEM#	QUANTITY	DESCRIPTION
101. DEMOLITION		
A	17.1 CY	Removal of Concrete Pavement, 8" thick ¹
B	1,680 LF	Removal of Pavement Stripe
C	1 EA	Remove & Relocate Traffic Sign
102. FINE GRADING & SUBGRADE PREPARATION		
A	137 SY	Class A Aggregate for Backfill
103. PAVING, IN PLACE		
A	30.6 CY	Concrete Paving, 8" thick ³
104. PAVEMENT MISCELLANEOUS		
A	127 LF	Traffic Stripe (Thermoplastic) 4" wide
B	2 EA	Traffic Symbol (Thermoplastic)
C	37 SY	Slab Sod, to 6' Behind Curb
D	1 LSUM	Construction Traffic Control ⁴

¹ MATERIAL QUANTITIES SHOWN FOR BIDDING PURPOSES. CONTRACTOR RESPONSIBLE FOR VERIFYING EXACT QUANTITIES AND SIZES. BRING DISCREPANCIES TO ATTENTION OF ENGINEER.
² INCLUDES THE COST OF FULL DEPTH SAWCUT, HAUL-OFF, FEES, & INCIDENTALS REQUIRED TO COMPLETE THE WORK.
³ INCLUDES THE COST OF REBAR, JOINTS, DOWELS, & INCIDENTALS REQUIRED TO COMPLETE THE WORK AS SHOWN ON THE PLANS.
⁴ SHALL BE IN STRICT ACCORDANCE WITH CURRENT CITY OF LAWTON STANDARDS AND SHALL INCLUDE THE COST FOR DESIGN, INSTALLATION, MAINTENANCE, AND SUBSEQUENT REMOVAL OF ALL TRAFFIC CONTROLS.

LEGEND

ADA ACCESSIBLE ROUTE	PVC POLYVINYL CHLORIDE PIPE
BLDG BUILDING	R RADIUS
B/L BUILDING LINE	RCP REINFORCED CONCRETE PIPE
CHBS CHISELED BOX, SET	RWIE RESTRICTED WATERLINE ESMT
CL CENTERLINE	R/W RIGHT-OF-WAY
CO SEWER CLEAN-OUT	SD STORM DRAIN
CONC CONCRETE	SDES STORM DRAIN END SECTION
COR CORNER	SDHW STORM DRAIN HEADWALL
EPED ELECTRIC PEDESTAL	SDIN STORM DRAIN INLET
ESMT EASEMENT	SDMH STORM DRAIN MANHOLE
FH FIRE HYDRANT	SF SQUARE FEET
FL FLOWLINE	SS SANITARY SEWER
F/LT FLOWLINE, THROAT	SSMH SANITARY SEWER MANHOLE
FNC FENCE	SY SQUARE YARDS
FND FOUND	TC TOP OF CURB
G GUTTER	TG TOP OF GRATE
GUY GUY ANCHOR	TP TOP OF PAVING
HEP HORIZONTAL ELLIPTICAL PIPE	TPED TELEPHONE PEDESTAL
IP IRON PIN	TR TOP OF RIM
IPF IRON PIN, FOUND	WL WATERLINE
IPS IRON PIN, SET	WM WATER METER
MAE MUTUAL ACCESS ESMT	WMH WATER MANHOLE
M&M MEET & MATCH	WV WATER VALVE
OE OVERHEAD ELECTRIC	UG UNDERGROUND GAS LINE
PFE PIN FLAG, ELECTRIC	UE UNDERGROUND ELECTRIC
PFT PIN FLAG, TELEPHONE	UT UNDERGROUND TELEPHONE
PP POWER POLE	U/E UTILITY EASEMENT
PPD POWER POLE WITH DIP	XFMR TRANSFORMER

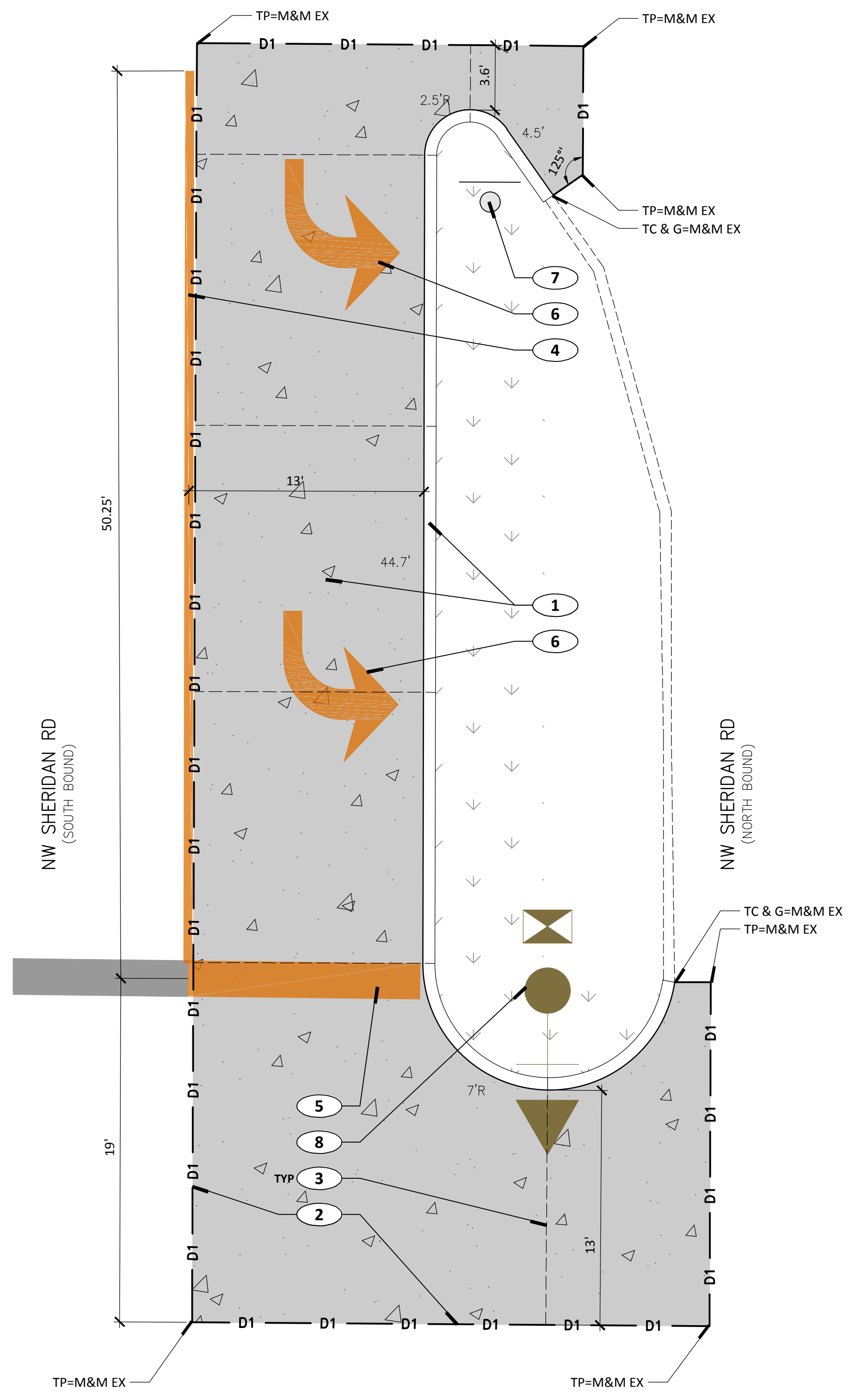


A Demolition Plan
 Scale: 1" = 5'

DEMOLITION KEY NOTES

- FULL DEPTH SAWCUT
- REMOVE EXISTING CONCRETE PAVEMENT W/ INTEGRAL CURB
- REMOVE & RELOCATE EXISTING TRAFFIC SIGN
- REMOVE EXISTING TRAFFIC SIGNAL POLE (RE: TRAFFIC SIGNAL LAYOUT BY OTHERS)
- REMOVE ALL EXISTING CROSSWALK STRIPING FROM ENTIRE INTERSECTION (COORDINATE W/ CITY)

NOTE: TRAFFIC CONTROL PLAN TO BE PROVIDED BY CONTRACTOR.



B Site, Layout, & Grading Plan
 Scale: 1" = 5'

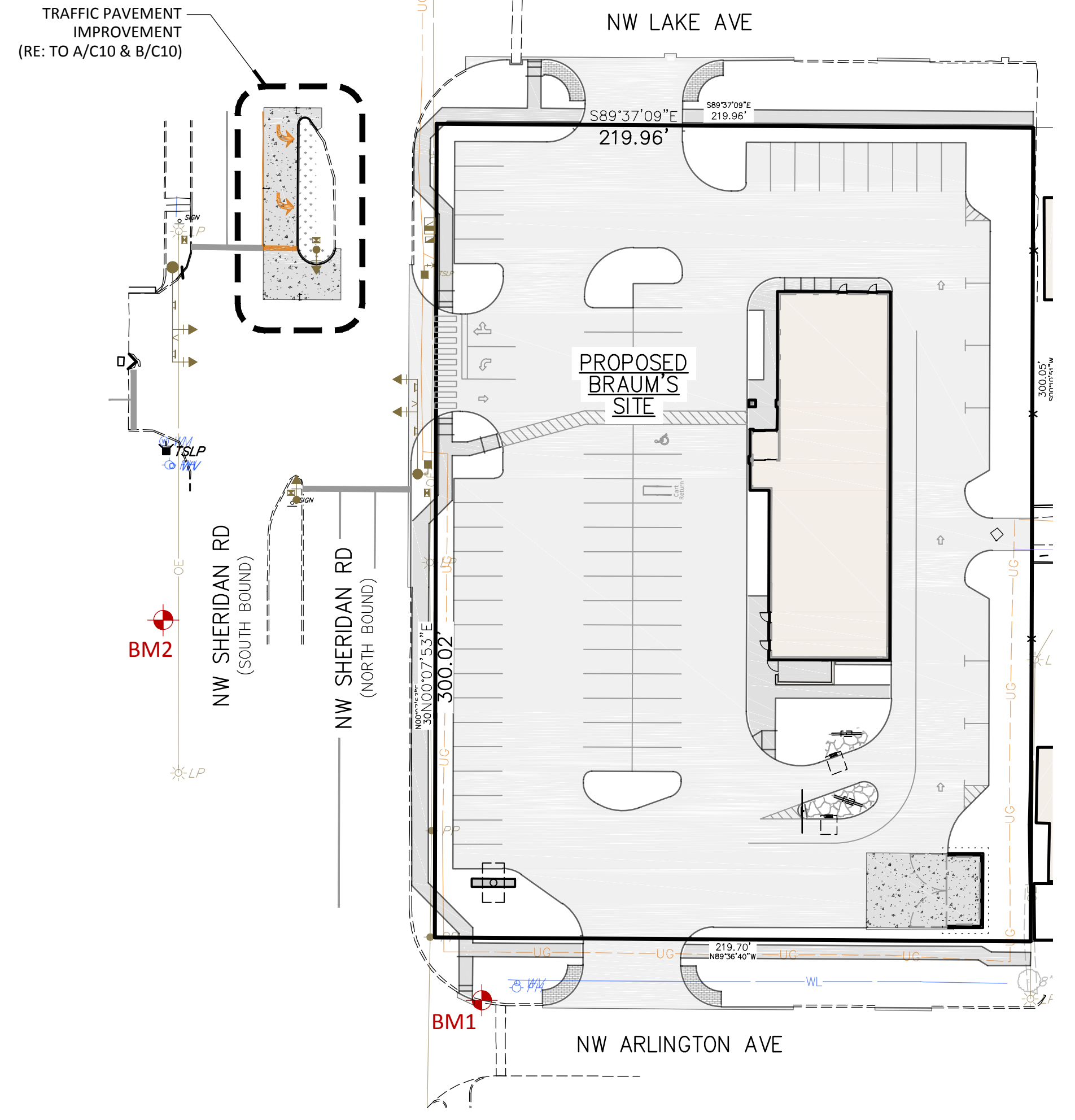
SITE PLAN KEY NOTES

- 8" CONCRETE PAVEMENT W/ INTEGRAL CURB (RE: LAWTON STANDARD DETAILS SUBDIVISION STREETS - 2, DETAIL NO. 8)
- CITY OF LAWTON TYPE D1 LOAD TRANSFER CONSTRUCTION JOINT (RE: LAWTON STANDARD DETAILS SUBDIVISION STREETS - 1, DETAIL NO. 3)
- SAWCUT JOINT
- THERMOPLASTIC PAVEMENT STRIPE (4" WIDE)(WHITE)
- THERMOPLASTIC STOP BAR (2" WIDE)
- THERMOPLASTIC PAVEMENT SYMBOL
- RELOCATE EXISTING TRAFFIC SIGN
- NEW TRAFFIC SIGNAL POLE (RE: TRAFFIC SIGNAL LAYOUT BY OTHERS)

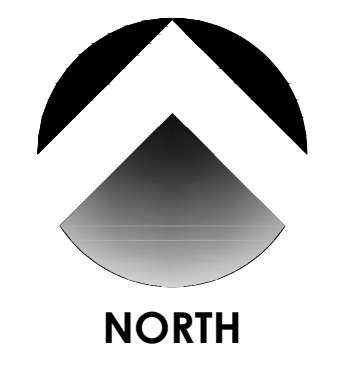
GRADING LEGEND

EX	EXISTING GROUND
G	GUTTER
M&M	MEET & MATCH
TC	TOP OF CURB
TP	TOP OF PAVEMENT

*CONTRACTOR SHALL FIELD VERIFY EXISTING SLOPES OF ADJACENT PAVEMENT & GRADE PROPOSED PAVEMENT TO MATCH EXISTING SLOPE PATTERNS.



C Key Map
 Scale: 1" = 40'



Scale: 1" = 5'
 Tanner Consulting

Benchmark 1 +
 CHISELED BOX SET ON TOP OF CURB. APPROXIMATELY 125.6' SOUTH & 105.9' WEST FROM THE SOUTHWEST BUILDING CORNER. (464838.25N, 1841507.21E)
 ELEVATION = 1125.86 (NAVD88)

Benchmark 2 +
 CHISELED BOX SET ON TOP OF CURB. APPROXIMATELY 14.6' NORTH & 223.3' WEST FROM THE SOUTHWEST BUILDING CORNER. (464978.42N, 1841389.77E)
 ELEVATION = 1128.21 (NAVD88)

THESE PLANS ARE TO BE REPRODUCED IN COLOR

P:\23244\CIVIL\23244\CIVIL\23244\TRAFFIC.DWG, C2, 6/21/2024, 11:50:49 AM, SRIBINSON, H, TANNER CONSULTING, LLC, OK, CA 2661 EXP 6/30/2025

TRAFFIC OPERATIONS GENERAL CONSTRUCTION NOTES

THE STRUCTURAL DESIGN OF ALL POLES, MAST ARMS, HIGH-MAST POLES, AND OTHER SUPPORTS FOR SIGNS, LUMINAIRES, AND SIGNALS AS WELL AS THEIR CONNECTIONS SHALL BE IN ACCORDANCE WITH THE 1994 EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS. THE MANUFACTURER SHALL ENSURE THE FOLLOWING ARE APPLIED TO THE DESIGN:

THE MINIMUM DESIGN WIND SPEED AND DESIGN LIFE AS REQUIRED IN THE AASHTO SPECIFICATIONS;

THE CALCULATED STRESSES AND FORCES FROM THE DESIGN LOADING DOES NOT EXCEED THOSE REQUIRED IN THE AASHTO SPECIFICATIONS;

A CATEGORY I FATIGUE IMPORTANCE FACTOR (I_f) FOR ALL STRUCTURES; NO VIBRATORY MITIGATION SHALL BE ALLOWED. TRUCK-INDUCED GUSTS SHALL BE APPLIED TO ALL OVERHEAD TRAFFIC SIGNAL SUPPORTS.

ALL MEMBERS ARE AT LEAST THE MINIMUM THICKNESS AS REQUIRED IN THE AASHTO SPECIFICATIONS;

LUMINAIRE MAST ARMS SHALL BE DESIGNED TO SUPPORT AT LEAST A 50 LB. (22.7 KG) LUMINAIRE WITH AN EFFECTIVE PROJECTED AREA OF 2.5 FT²(0.23 M²);

THE ANCHOR BOLT DESIGN AND AMOUNT OF ANCHOR BOLTS TO BE USED SHALL BE AS REQUIRED IN THE AASHTO SPECIFICATIONS.

SIGNAL MAST ARMS AND POLES SHALL BE DESIGNED FOR SPECIFIC SIGNAL HEAD AND SIGN PLACEMENT.

UNLESS SITE SPECIFIC GEOTECHNICAL DATA IS AVAILABLE, FOUNDATIONS SHALL BE DESIGNED UTILIZING THESE PARAMETERS; SHEAR STRENGTH OF COHESIVE SOIL (C) OF 500 PSF, ANGLE OF INTERNAL FRICTION (ϕ) OF 22 DEGREES, AND EFFECTIVE UNIT WEIGHT OF SOIL (γ) OF 120 PCF.

MINIMUM HAND HOLE SIZE OF 3 INCH WIDTH BY 5 INCH HEIGHT.

SYMBOLS AND LEGENDS ARE DIAGRAMMATIC ONLY AND LOCATIONS SHALL BE ADJUSTED FOR EXISTING FIELD CONDITIONS, BUT NO MAJOR ALTERATIONS OR RELOCATIONS WILL BE MADE WITHOUT FIRST CONSULTING WITH THE CITY OF LAWTON AND THE TRAFFIC ENGINEER.

ALL BROKEN CONCRETE, WASTE MATERIAL, AND DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN AN AREA APPROVED BY THE ENGINEER. NO PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC.... PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED IN THE AREA OF CONSTRUCTION LISTED WITH THE FOLLOWING AGENCIES:
THE "OKIE" NOTIFICATION CENTER 811 OR 1-800-522-6543 OR WWW.CALLOKIE.COM OR THE LOCAL COUNTY CLERK'S OFFICE.

DEPTH OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

TRAFFIC SIGNALS PAY QUANTITY NOTES

(TC-25) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS REQUIRED FOR COMPLETION OF THE PROJECT.

ALL SIGNS AND BARRICADES, WHICH ARE SHOWN WITH TYPE 'A' LIGHTS IN THE STANDARD DRAWINGS SHALL HAVE THE CORRESPONDING LIGHT ATTACHED DURING NON-DAYLIGHT HOURS.

(TR-10) THE CONTROLLERS TO BE FURNISHED ON THIS PROJECT SHALL BE 8 PHASE VEHICLE ACTUATED SOLID STATE DIGITAL TRAFFIC SIGNAL CONTROLLERS. A MINIMUM OF 16 LOAD SWITCH RECEPTACLES SHALL BE FURNISHED AND WIRED TO THE MOUNTING FRAMES. THE CONTROLLER SHALL BE CAPABLE OF PERFORMING AS SHOWN ON THE PHASE AND SEQUENCE DIAGRAM.

PEDESTRIAN ISOLATION SHALL BE PROVIDED IN THE CONTROLLER CABINET. ALL N.E.M.A. FUNCTIONS SHALL TERMINATE IN THE CONTROLLER CABINET.

(TR-24) ALL TRAFFIC SIGNAL EQUIPMENT REMOVED SHALL BECOME THE PROPERTY OF THE CITY. THE CONTRACTOR SHALL NEATLY STACK SUCH REMOVED MATERIAL AT A LOCATION ON THE JOB SITE AS DIRECTED BY THE ENGINEER. THE PRICE BID SHALL INCLUDE THE REMOVAL OF ALL FOOTINGS BELOW GROUND LEVEL OR AS DIRECTED BY THE ENGINEER. FOOTINGS TO BECOME THE PROPERTY OF THE CONTRACTOR.

(TS-6) SHOP DRAWINGS FOR ATTACHING SIGNS TO LIGHT AND/OR SIGNAL POLES AND MAST ARMS SHALL BE SUBMITTED TO THE TRAFFIC ENGINEER FOR APPROVAL BEFORE FABRICATION. NO HOLES SHALL BE PERMITTED IN ANY LIGHT AND/OR SIGNAL POLE OR MAST ARM. THE PRICE BID SHALL INCLUDE ALL MATERIALS, LABOR, HARDWARE AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS DESCRIBED.

(1) PAY ITEM INCLUDES THE COMPLETE REMOVAL OF TRAFFIC SIGNAL ITEMS AS SHOWN IN THE TRAFFIC SIGNAL LAYOUT. THIS INCLUDES THE REMOVAL OF ONE (1) PEDESTAL TRAFFIC SIGNAL POLE, ONE (1) OVERHEAD TRAFFIC SIGNAL POLE, AND (1) TRAFFIC SIGNAL CONTROLLER CABINET. REMOVAL OF ASSOCIATED TRAFFIC SIGNAL EQUIPMENT, CONDUIT, AND CONDUCTORS SHALL BE INCLUDED IN THIS ITEM.

(2) PAY ITEM IS AN ESTIMATED QUANTITY INCLUDED FOR RECONNECTING THE EXISTING ELECTRICAL SERVICE TO THE NEW TRAFFIC SIGNAL CONTROLLER. ALL COSTS ASSOCIATED WITH RECONNECTING THE EXISTING ELECTRICAL SERVICE TO THE NEW CONTROLLER SHALL BE INCLUDED IN THIS ITEM.

(3) THE CONTROLLER FURNISHED ON THIS PROJECT SHALL BE CAPABLE OF PERFORMING AS SHOWN ON THE PHASE AND SEQUENCE DIAGRAM. CONTROLLER SHALL BE FULLY COMPATIBLE WITH THE SYSTEM CURRENTLY IN USE IN THE CITY OF LAWTON. SHOP DRAWINGS AND SPECIFICATIONS FOR CONTROLLER TO BE APPROVED BY CITY OF LAWTON AND THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.

A BATTERY BACKUP SYSTEM IS REQUIRED. THE U.P.S. SYSTEM SHALL BE ALPHA FXM HP 1100 BATTERY BACKUP AND INCLUDE AN SE48-1616 OUTDOOR TRAFFIC BBS ENCLOSURE, ALPHACELL XTV BATTERY(S), AND ALPHAGUARD BATTERY CHARGE MANAGEMENT SYSTEM (OR APPROVED EQUAL).

(4) THIS PAY ITEM INCLUDES THE COMPLETE INSTALLATION OF A RADAR VEHICLE DETECTION SYSTEM FOR THE SIGNALIZED INTERSECTION. THE SYSTEM SHALL BE SHALL BE MANUFACTURED BY WAVETRONIX AND INCLUDE STOP BAR DETECTION ON ALL FOUR (4) APPROACHES AT THE INTERSECTION, AS SHOWN IN THE PLANS. THE CONTRACTOR SHALL FURNISH AND INSTALL THE FOLLOWING:

- RADAR DETECTION SYSTEM INCLUDING A LAPTOP, ALL NECESSARY CABLE, HARNESSSES, MATERIALS, FITTINGS, AND MISCELLANEOUS COMPONENTS NECESSARY TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM AT ONE (1) INTERSECTION,
- FOUR (4) WAVETRONIX POLE-MOUNTED RADAR DETECTORS WITH PRESENCE DETECTION CAPABILITY, (INSTALLATION TO INCLUDE A WATERPROOF JUNCTION BOX FOR EACH SENSOR),
- INTERFACE SOFTWARE,
- MODEMS AND CABLES, FURNISHED AND INSTALLED TO ALLOW REMOTE DETECTOR SET UP AND RETRIEVAL OF DATA IN THE DETECTION UNIT,
- POWER CABLE, TO BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS.

(5) CONTRACTOR SHALL PROVIDE POLARA IN2 - INAVIGATOR 2-WIRE PUSH BUTTON STATION, OR APPROVED EQUAL.

(6) R10-3E PEDESTRIAN PUSH BUTTON SIGNS SHALL BE INCLUDED FOR EACH PEDESTRIAN PUSH BUTTON. COST OF SIGNS TO BE INCLUDED IN PEDESTRIAN PUSH BUTTON ITEM.

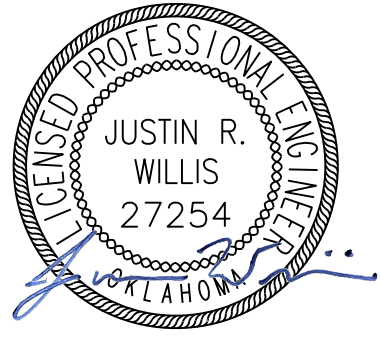
(7) ONE-WAY, ONE SECTION LED COUNTDOWN PEDESTRIAN SIGNAL HEADS SHALL BE USED.

(8) RED, YELLOW, AND GREEN LED TRAFFIC SIGNAL HEADS SHALL BE FURNISHED AND INSTALLED ON THIS PROJECT. THE LED TRAFFIC MODULES, LENSES, AND ALL ASSOCIATED MATERIAL AND EQUIPMENT SHALL CONFORM TO ITE VEHICLE TRAFFIC CONTROL SIGNAL HEAD (VTC SH) STANDARDS IN EFFECT AT THE TIME THE ORDER IS PLACED. LED HEADS SHALL BE CAPABLE OF OPERATING WITHOUT A REFLECTOR. LED HEADS SHALL HAVE 'INCANDESCENT LOOK'.

(9) OVERHEAD TRAFFIC SIGNAL HEADS SHALL BE INSTALLED HORIZONTALLY ON THE ASSOCIATED MAST ARMS, SIMILAR TO THE EXISTING OVERHEAD SIGNALS CURRENTLY IN PLACE AT THE INTERSECTION. TRAFFIC SIGNAL INDICATIONS SHALL BE ORIENTED IN ORDER (LEFT TO RIGHT) RED, YELLOW, GREEN.

SUMMARY OF PAY QUANTITIES

TRAFFIC SIGNAL			
ITEM		DESCRIPTION	UNIT QUANTITY
802(B)	0324	2" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	LF 55
802(B)	0328	3" PVC SCH. 40 PLASTIC CONDUIT BORED	LF 285
802(B)	0332	3" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	LF 10
803(A)	1210	PULL BOX (SIZE I)	EA 4
803(A)	1220	PULL BOX (SIZE II)	EA 1
804(A)	2200	STRUCTURAL CONCRETE	CY 6.0
804(B)	2300	REINFORCING STEEL	LB 844
805(A)	3256	(PL) REMOVAL OF TRAFFIC SIGNAL EQUIPMENT (TR-24)(1)	LSUM 1
806(A)	4312	POLE & 25' TS MST. ARM (G. STL.)	EA 1
806(A)	4320	POLE & 35' TS MST. ARM (G. STL.)	EA 1
806(B)	4412	12' MTG. HT. TS PED. POLE (G.STL.)	EA 2
811	9120	1/C NO.6 ELECT.COND. (2)	LF 100
825	8100	TRAFFIC SIGNAL CONTROLLER ASSEMBLY (TR-10)(3)	EA 1
828	0110	(PL) DETECTION SYSTEM (RADAR) (4)	LSUM 1
830	2100	PEDESTRIAN PUSH BUTTON (5,6)	EA 2
831	3116	1WAY2SEC. ADJ. PED. SIG. HD. S-20 (7)	EA 2
831	3120	1WAY3SEC. ADJ. SIG. HD. S-6 (8,9)	EA 4
831	3124	1WAY3SEC. ADJ. SIG. HD. S-9 (8)	EA 2
833	5100	BACKPLATE	EA 6
834(A)	6205	5/C TRAFFIC SIGNAL ELECTRICAL CABLE	LF 690
834(A)	6225	15/C TRAFFIC SIGNAL ELECTRICAL CABLE	LF 580
834(B)	6300	2/C SHIELDED LOOP DETECTOR LEAD-IN CABLE	LF 20
850(C)	1400	MAST ARM MOUNTED SIGNS (ALUM.) (TS-6)	SF 55
880(J)	7110	CONSTRUCTION TRAFFIC CONTROL (TC-25)	LSUM 1



06/05/2024



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MILESTONE	DATE

PLOT DATE: 6/05/24

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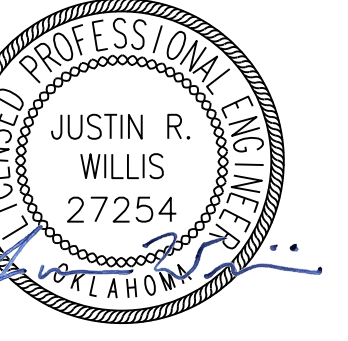


PROJECT: 23244
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(V)



TRAFFIC SIGNAL
PAY ITEMS &
NOTES



06/05/2024



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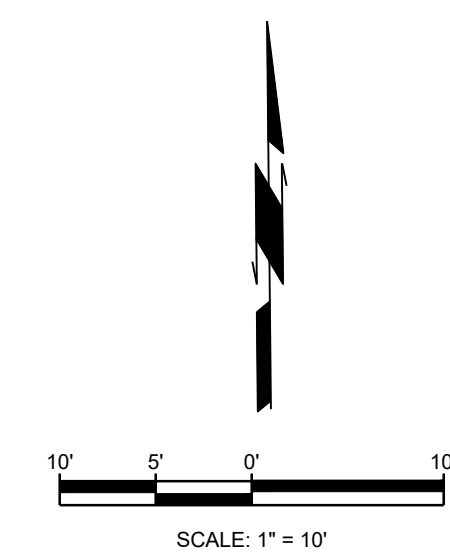
TRAFFIC SIGNAL LAYOUT

SIGNAL HEAD NUMBER	NUMBER & TYPE	MOUNTING	VISOR	BACKPLATE
4,5,9,10	4-ONE WAY (S-6)	MAST ARM	V-1	B-2
1,6	2-ONE WAY (S-9)	MAST ARM	V-1	B-2
2,3,7,8	4-EXISTING	MAST ARM	-	-
11,12	2-ONE WAY (S-20)	CLAMP	-	-

LOCATION	MOUNTING HEIGHT	MAST ARM LENGTHS	FOUNDATION
'B'	EXISTING	EXISTING	EXISTING
'C'	20'	25' T.S. ARM	S-25
'D'	EXISTING	EXISTING	EXISTING
'E'	20'	35' T.S. ARM	S-35
'F'	12'	PEDESTAL POLE	F-1
'G'	12'	PEDESTAL POLE	F-1

ELECTRICAL CABLE TO CONTROLLER LOCATION 'A'			
B: 15C/5C	C: 15C/5C	D: 15C	E: 15C
F: 5C	G: 5C		

	DETECTION ZONES
	TRAFFIC SIGNAL POLE/MAST ARM / SIGNAL HEADS/LUMINAIRE
	PEDESTRIAN SIGNAL POLE / SIGNAL HEAD / PUSH BUTTON
	SIGNAL HEAD NUMBERS
	CONTROLLER CABINET
	PULL BOX SIZE I
	PULL BOX SIZE II
	PHASE NUMBERS
	POLE NUMBERS
	3" CONDUIT RUN & NUMBERS EXISTING
	2" CONDUIT RUN & NUMBERS
	OPTICOM
	RADAR DETECTION
	MAST ARM MOUNTED SIGN
	SIGN DESIGNATION



NOTES:

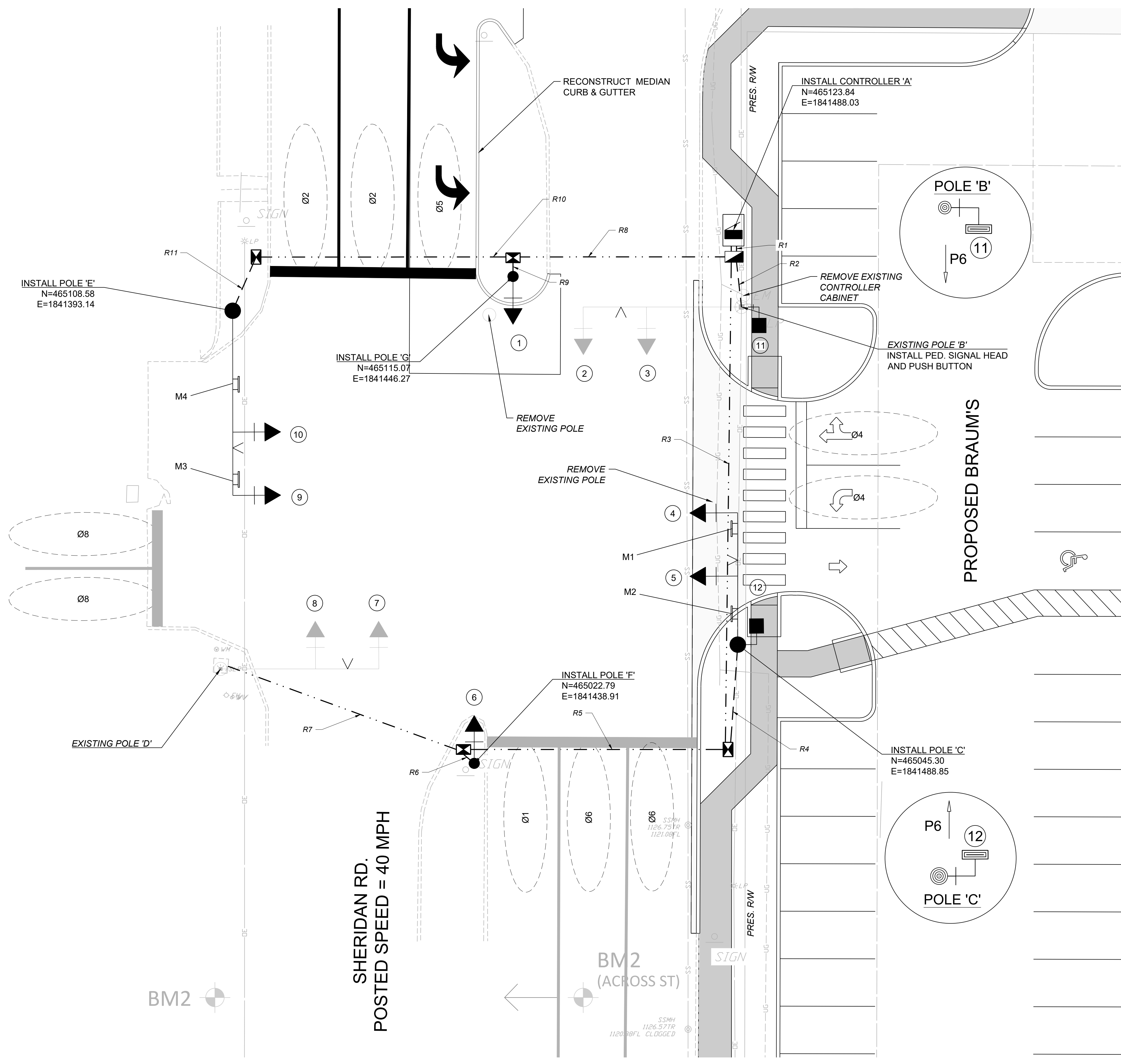
1. THE CONTRACTOR SHALL CONTACT THE CITY OF LAWTON AND THE UTILITY COMPANIES FOR POSSIBLE UNDERGROUND EXISTING UTILITIES NOT SHOWN ON THE PLANS. THIS SHOULD BE DONE BEFORE TRENCHING OR PUSHING ELECTRICAL CONDUITS.
2. VIDEO VEHICLE DETECTION SHALL BE PROVIDED FOR THIS INTERSECTION. THE DETECTOR LOOPS SHOWN ON THE PAVEMENT ARE SHOWN ONLY TO DEPICT AREAS OF DETECTION FOR THE VIDEO DETECTION UNITS.
3. SIGNAL POLES AND FOUNDATIONS SHALL CONFORM TO AASHTO'S STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 3RD EDITION (1994) AND ODOT'S TRAFFIC STANDARDS CFD1-1-00E AND PMAP1-1-00E (1999).



SHERIDAN MALL

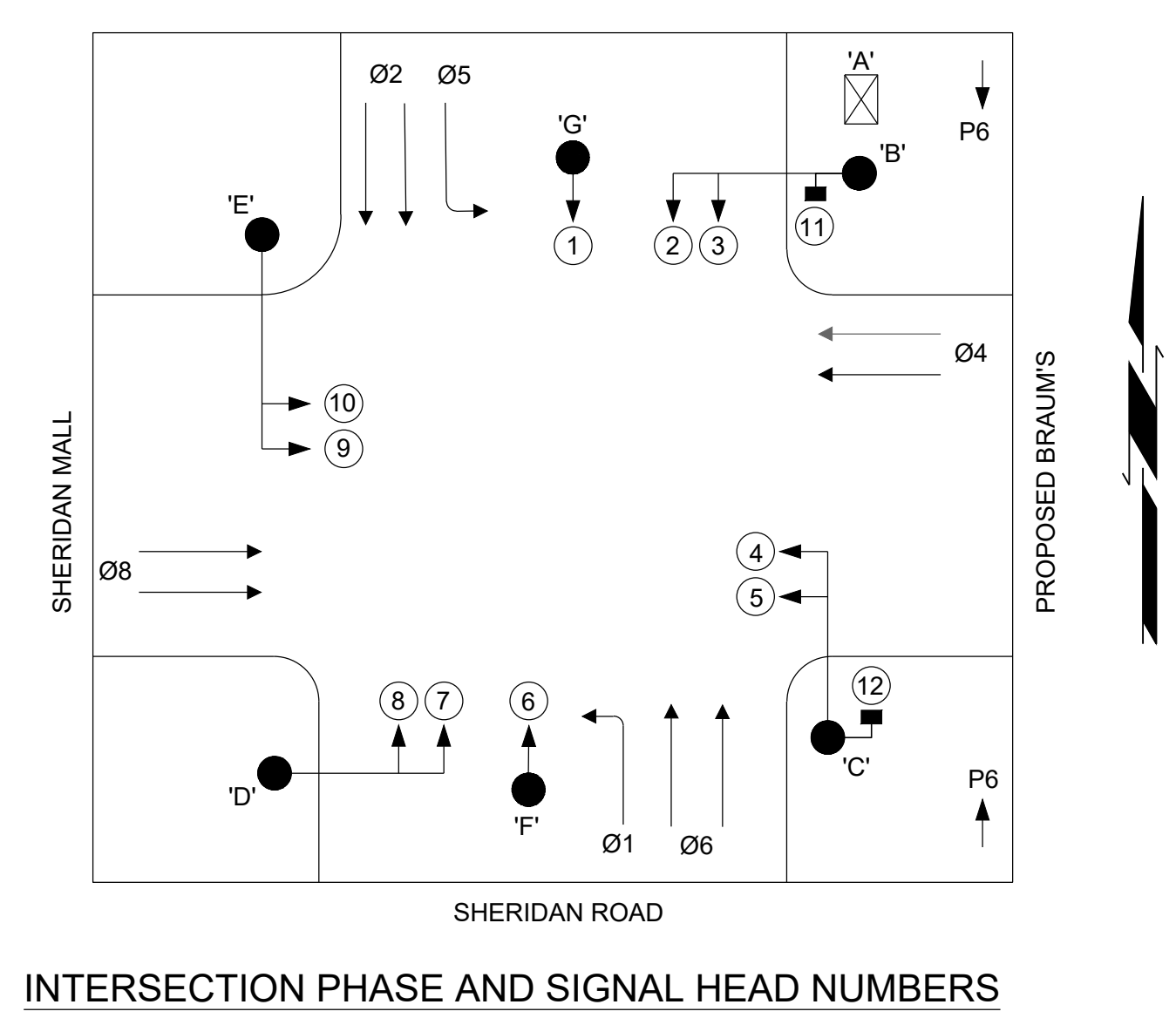
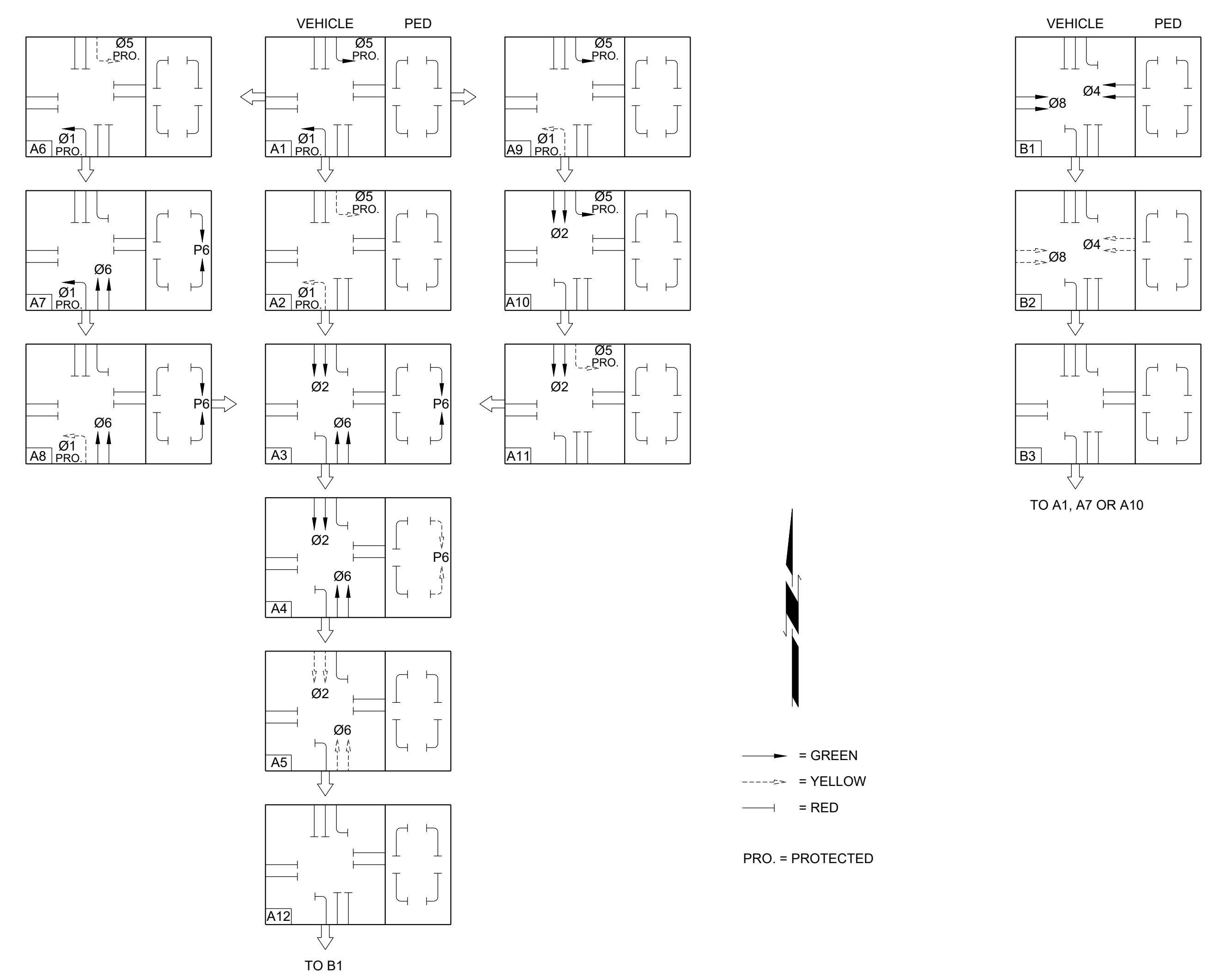
SHERIDAN RD.
POSTED SPEED = 40 MPH

PROPOSED BRAUM'S



PHASING DIAGRAM

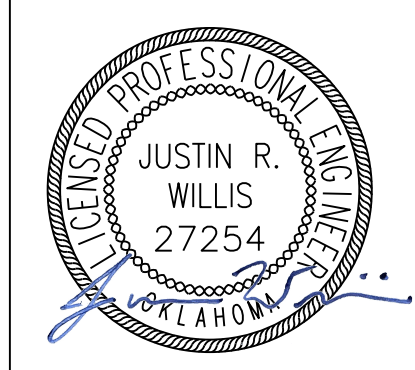
PHASE "A" SHERIDAN ROAD	PHASE "B" BRAUM'S/SHERIDAN MALL
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SEQUENCE CHART

DIRECTION	BLOCK NO.	PHASE						
		1	6	8	5	2	4	P6
		SIGNAL HEAD NUMBERS						
		1	2,3	4,5	6	7,8	9,10	11,12
Ø1 & Ø5 PRO.	A1	+G	R	R	-G	R	R	DW
Ø1 & Ø5 PRO CL.	A2	+Y	R	R	+Y	R	R	DW
Ø2 & Ø6 R.O.W., P6 R.O.W.	A3	+R	G	R	-R	G	R	W
Ø2 & Ø6 R.O.W., P6 CL.	A4	+R	G	R	-R	G	R	FDW
Ø2 & Ø6 CL.	A5	+R	Y	R	+R	Y	R	DW
Ø1 PRO., Ø5 PRO. CL.	A6	+G	R	R	+Y	R	R	DW
Ø1 PRO., Ø6 R.O.W. & P6 R.O.W.	A7	+G	G	R	+R	R	R	W
Ø1 PRO. CL., Ø6 R.O.W. & P6 R.O.W.	A8	+Y	G	R	-R	R	R	W
Ø5 PRO. & Ø1 PRO. CL.	A9	+Y	R	R	-G	R	R	DW
Ø5 PRO., & Ø2 R.O.W.	A10	+R	R	R	-G	G	R	DW
Ø5 PRO. CL. & Ø2 R.O.W.	A11	+R	R	R	+Y	G	R	DW
ALL RED	A12	+R	R	R	+R	R	R	DW
Ø4 & Ø8 R.O.W.	B1	+R	R	G	-R	R	G	DW
Ø4 & Ø8 CL.	B2	+R	R	Y	+R	R	Y	DW
ALL RED	B3	+R	R	R	+R	R	R	DW
FLASHING OPERATION	-	+FR	FR	FR	+FR	FR	FR	OFF

R.O.W. = RIGHT-OF-WAY R = RED -G = GREEN ARROW W = WALK
 PRO. = PROTECTED Y = YELLOW -Y = YELLOW ARROW DW = DON'T WALK
 CL. = CLEAR G = GREEN -R = RED ARROW FDW = FLASHING DON'T WALK



06/05/2024



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MILESTONE	DATE

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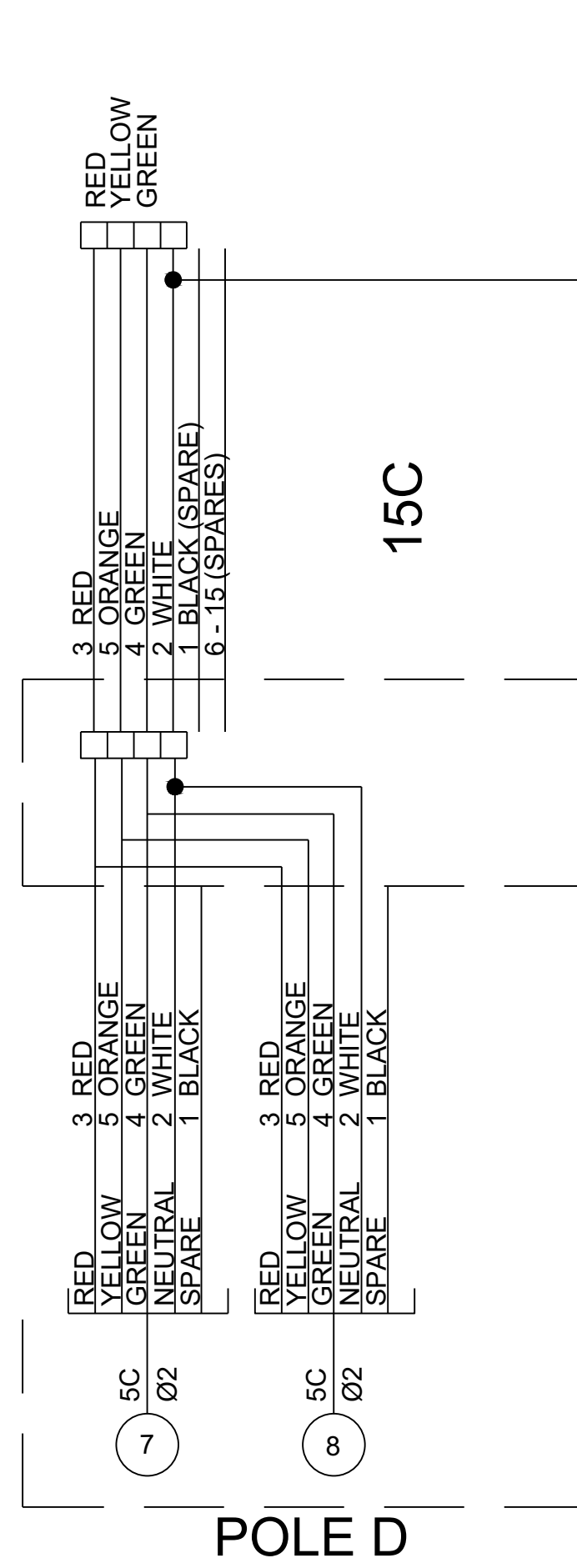
PROJECT: 23244
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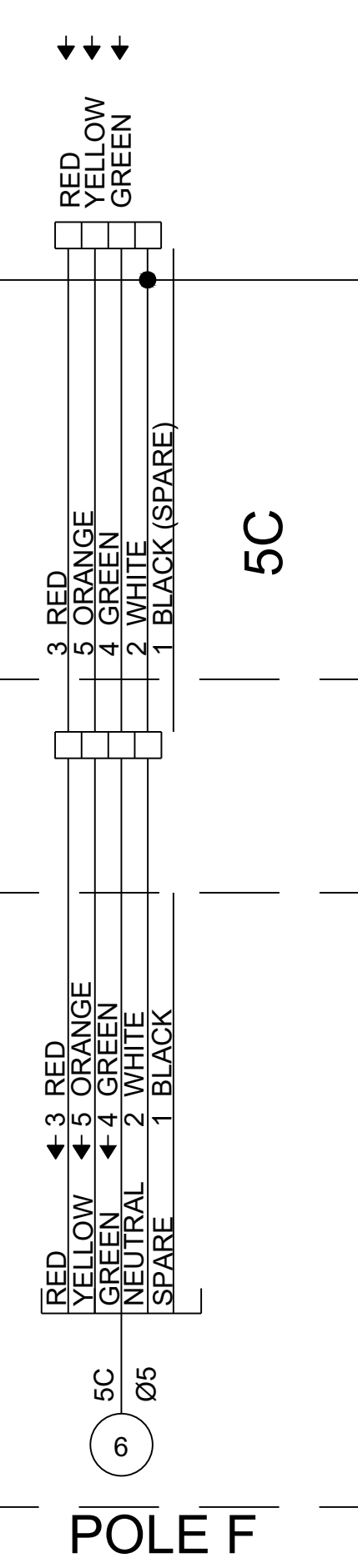


TRAFFIC SIGNAL PHASING DIAGRAM

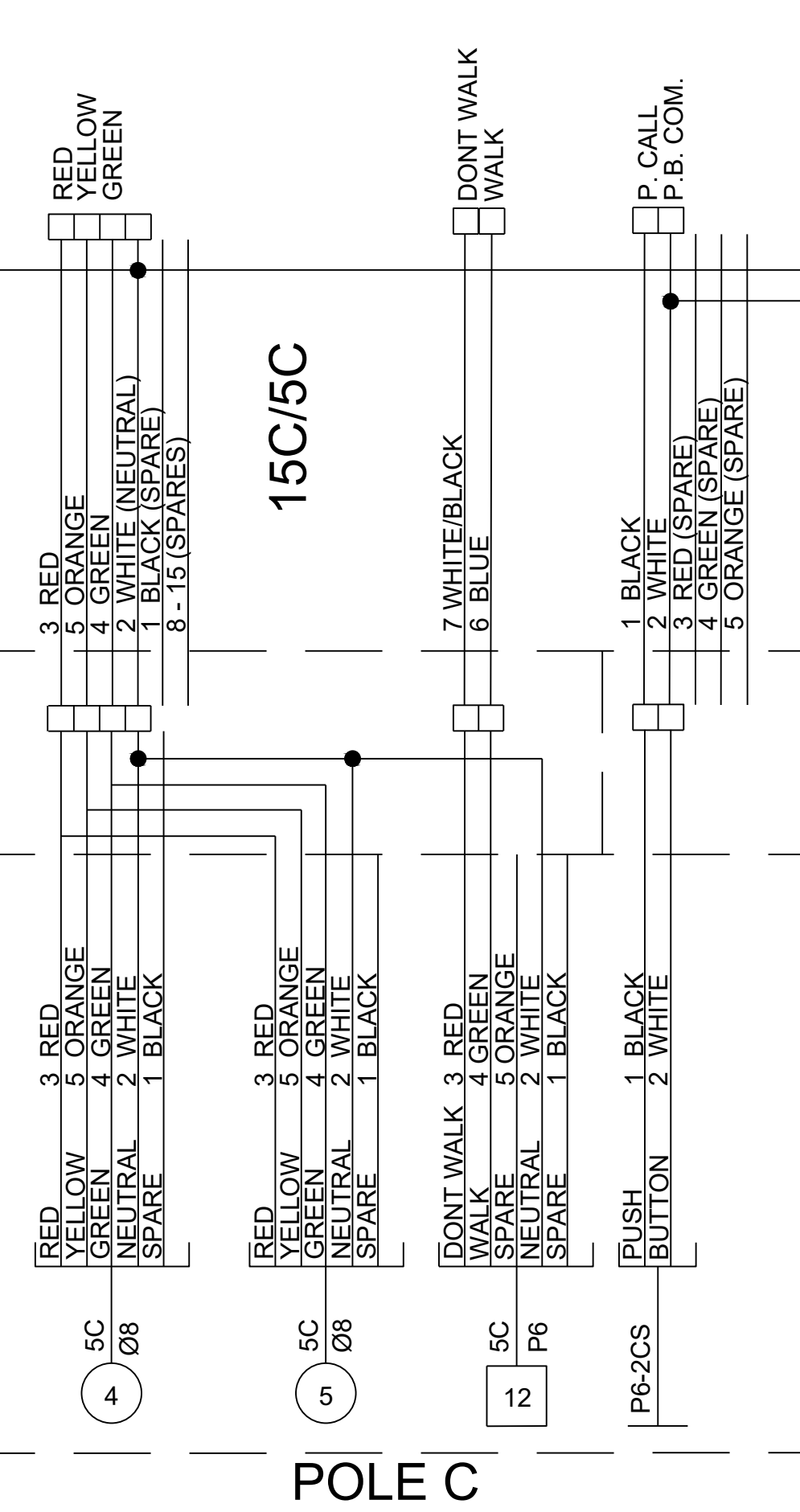
SIGNAL HEAD			POLE		CONDUIT		CONTROLLER	
SIGNAL CABLE HD. NO. IDENT.	FUNCTION	CON. NO.	WIRE COLOR	TERMINAL	WIRE COLOR	CON. NO.	CABLE IDENT.	FUNCTION



POLE D

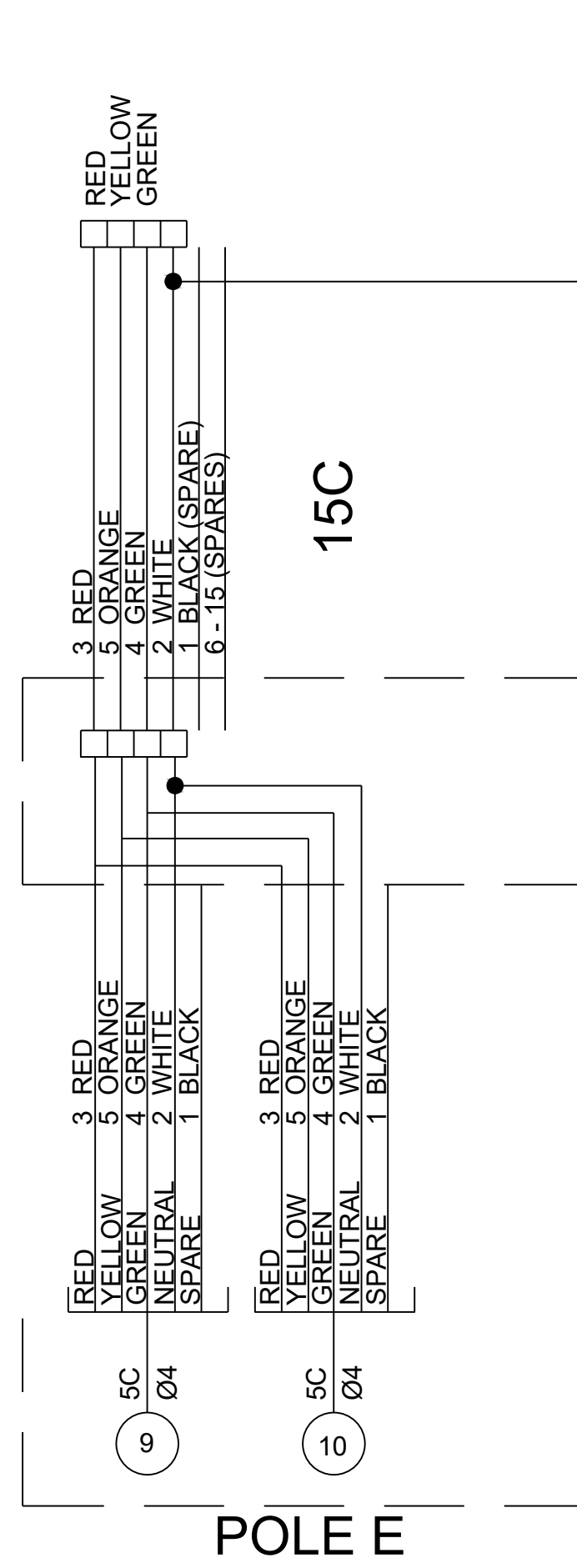


POLE F

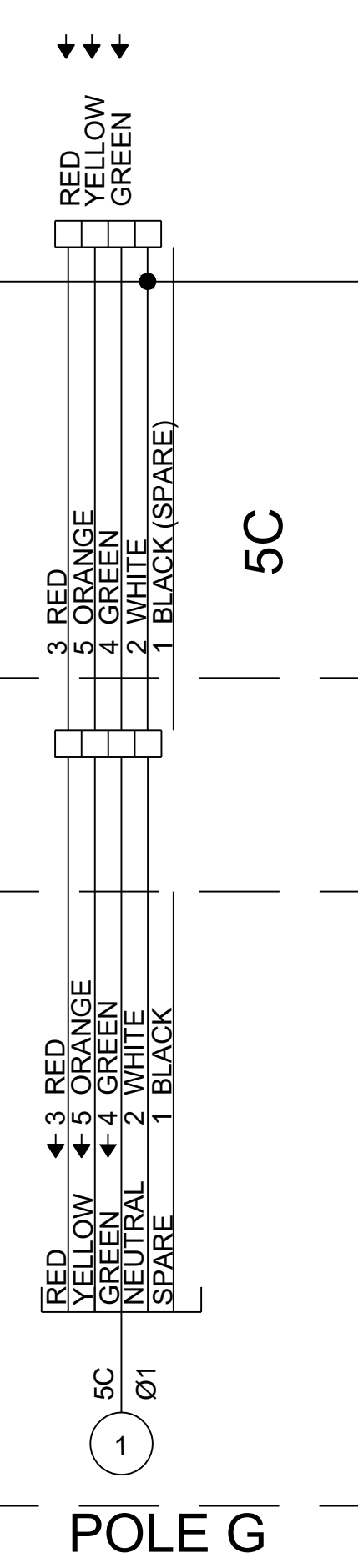


POLE C

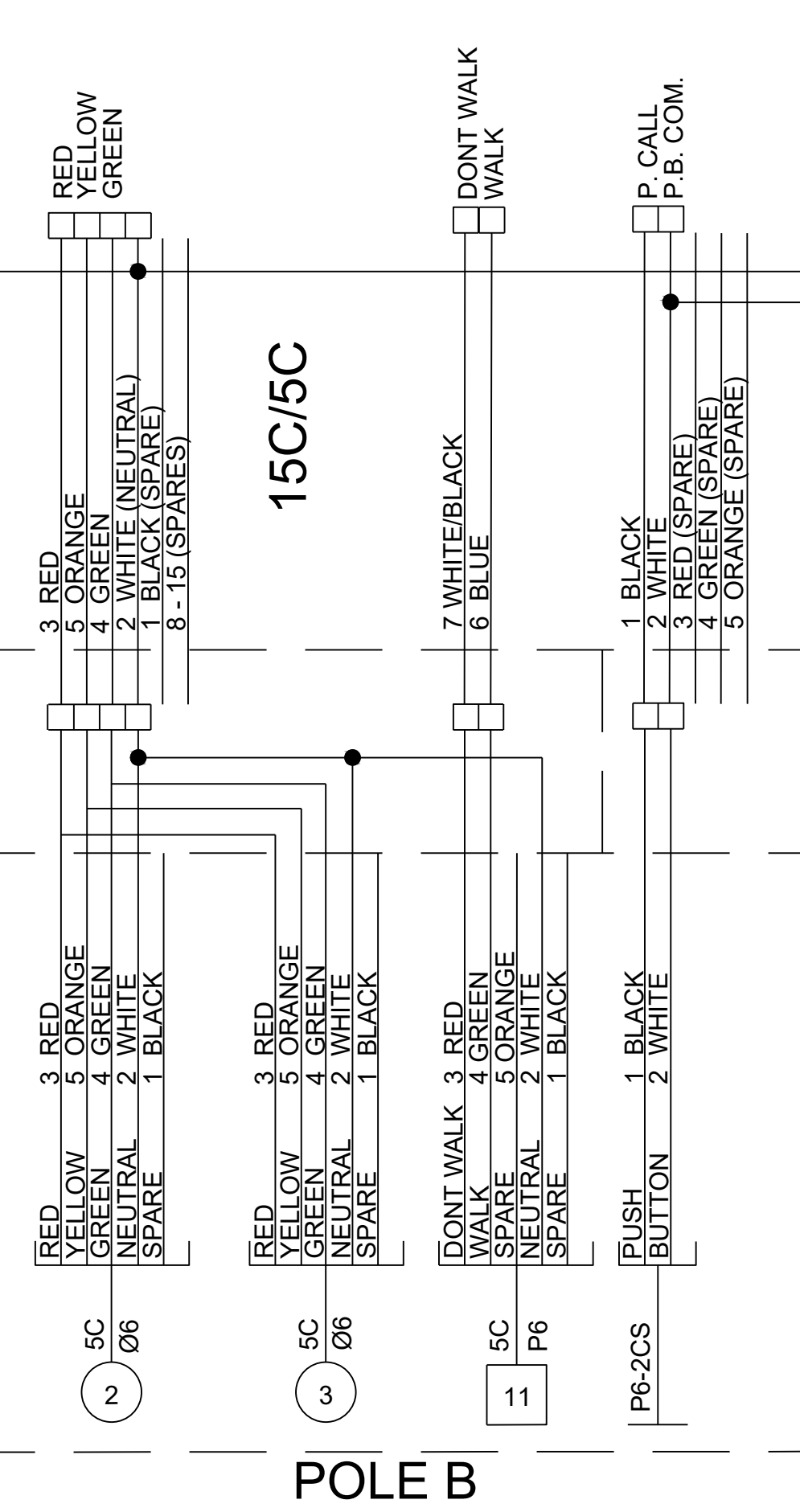
SIGNAL HEAD			POLE		CONDUIT		CONTROLLER	
SIGNAL CABLE HD. NO. IDENT.	FUNCTION	CON. NO.	WIRE COLOR	TERMINAL	WIRE COLOR	CON. NO.	CABLE IDENT.	FUNCTION



POLE E

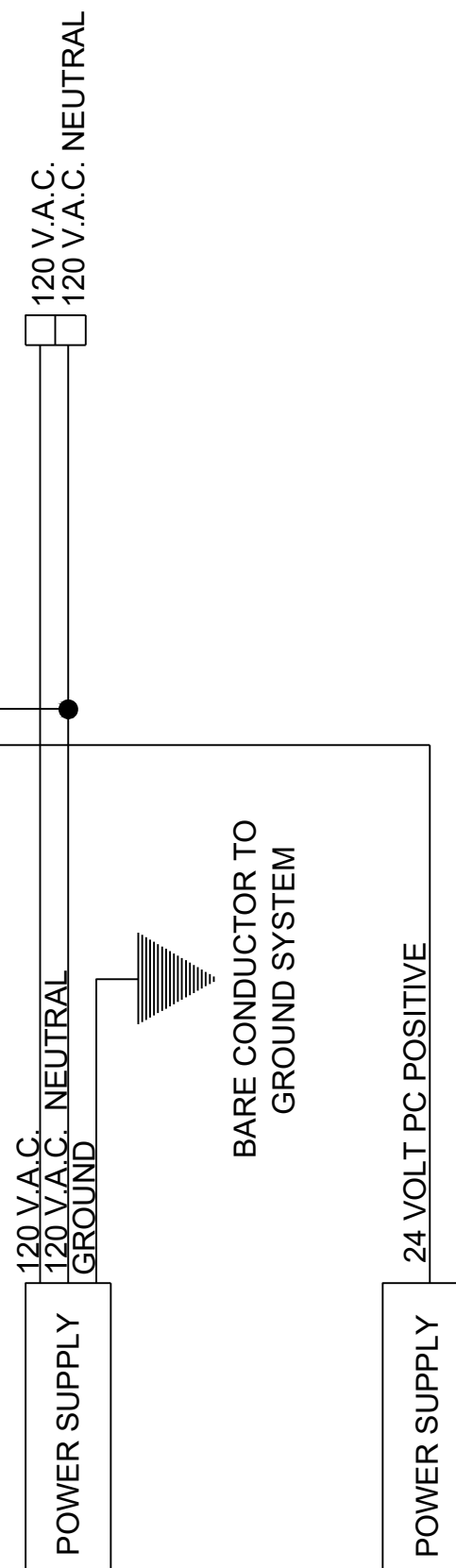


POLE G



POLE B

- NOTES:
- IF JUMPERS OR OTHER CONNECTIONS ARE MADE IN THE FIELD DURING INSTALLATION AND ARE ACCEPTED BY THE ENGINEER, THIS SHOULD BE SHOWN ON THE WIRING DIAGRAM FOR FUTURE REFERENCE.
 - THE WIRING DIAGRAM IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE WIRING REQUIRED FOR THE INTENDED OPERATION.

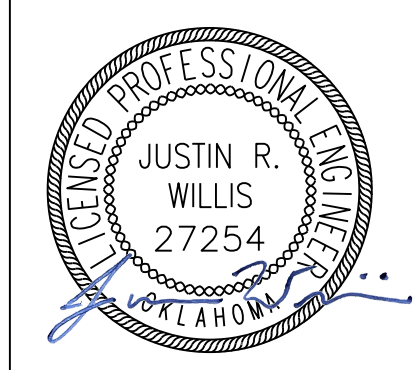


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TRAFFIC SIGNAL
 WIRING DIAGRAM



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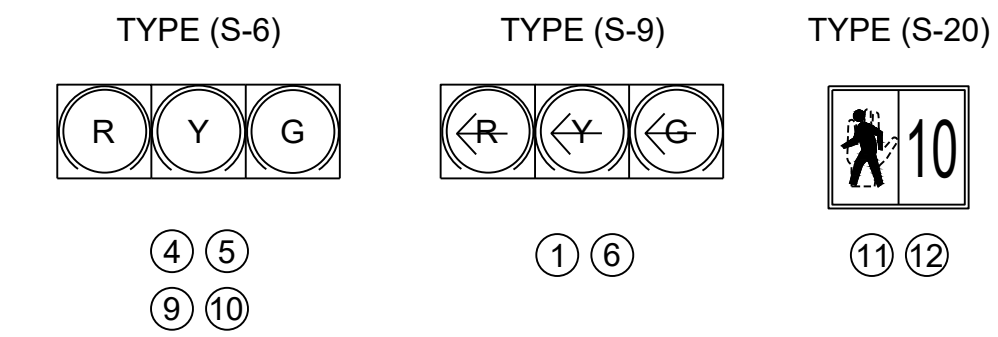
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SUMMARY OF CONDUIT & CABLES TO CONTROLLER						
RUN NO.	NO. OF NEW CONDUITS	2" PVC	3" PVC	3" PVC	5 CONDR.	15 CONDR.
		TRENCHED	BORED	TRENCH	LF	LF
		LF	LF	LF	834(A)	834(A)
R1	2			10	80	80
R2	1	10			15	15
R3	1		95		210	210
R4	1	20			25	25
R5	1		50		60	60
R6	1	5			10	0
R7	1		50		0	60
R8	1		40		50	50
R9	1	5			10	0
R10	1		50		0	60
R11	1	15			0	20
TOTALS		55	285	10	460	580

NOTE: ALL CONDUIT SHALL BE SCHEDULE 40.

SUMMARY OF CABLE INSIDE POLE AND MAST ARM		
POLE NO.	2 CONDR. SHIELDED	5 CONDR.
	LF	LF
	834(B)	834(A)
B	10	10
C	10	90
D		
E		100
F		15
G		15
TOTALS	20	230

SUMMARY OF POLE FOOTINGS			
POLE NO.	DESIGN	STRUCTURAL CONCRETE	REINFORCING STEEL
		CY	LB
		804(A)	804(B)
B			
C	S-25	2.5	375.4
D			
E	S-35	2.7	416.3
F	F-1	0.4	26.3
G	F-1	0.4	26.3
TOTALS		6.0	844.3



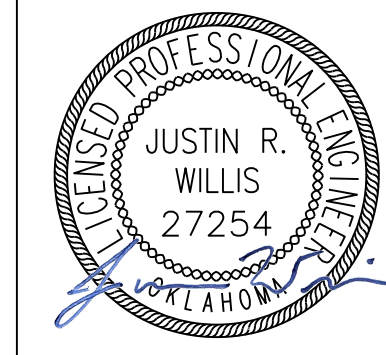
SIGNAL HEAD TYPES & NUMBERS

SUMMARY OF MAST ARM SIGNS					
SIGN ID	SIGN	SIGN DESCRIPTION	SIZE	SF	LOCATION
M1	R10-12	LEFT TURN YIELD ON GREEN	30" X 36"	7.5	C ARM
M2	A	NW SHERIDAN RD	120" X 24"	20.0	
M3	R10-12	LEFT TURN YIELD ON GREEN	30" X 36"	7.5	E ARM
M4	A	NW SHERIDAN RD	120" X 24"	20.0	
TOTALS				55.0	

NOTES: CONTRACTOR SHALL MEET ALL MUTCD, LATEST EDITION, STANDARDS FOR INDIVIDUAL SIGN NAMES. SEE "SUMMARY OF MAST ARM SIGNS" TABLE AND SIGN DETAILS ON THIS SHEET FOR TEXT LAYOUTS.

SEE ODOT STD. SNS1-1 (LATEST REV.) FOR BRACKET DESIGN

REFLECTORIZED GREEN - BACKGROUND
REFLECTORIZED WHITE - MESSAGE & BORDER
SIGN MATERIAL - ALUMINUM 0.063



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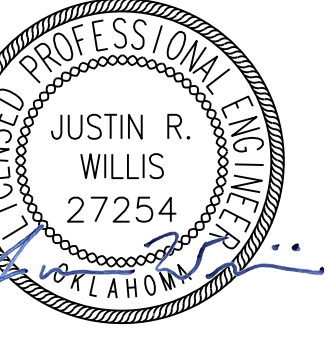


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TRAFFIC SIGNAL
DETAILS

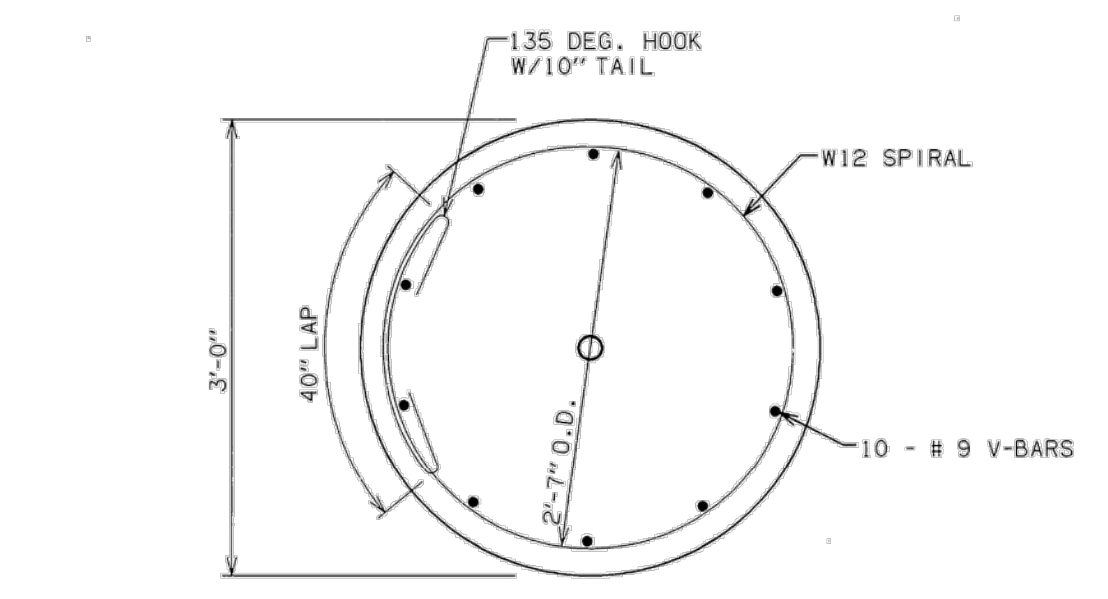


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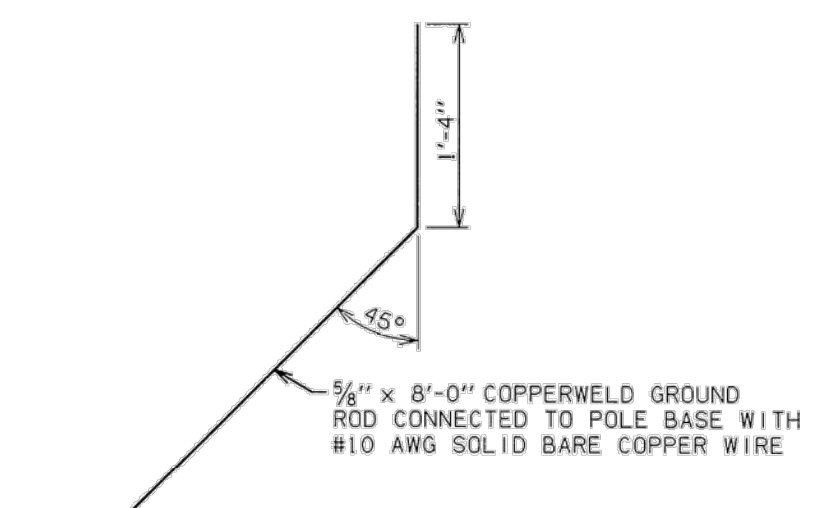
PEDESTAL POLE FOOTING DATA						
POLE HEIGHT	DESIGN NO.	DIMENSIONS			QUANTITIES	
		"G"	V-BAR LENGTH	* W12 SPIRAL LENGTH	REINFORCING STEEL	STRUCTURAL CONC.
FT.				FT.	LBS	C.Y.
8	F-3	2'-6"	2'-0"	35	22.3	0.3
10	F-2	2'-6"	2'-0"	35	22.3	0.3
12	F-1	3'-0"	2'-6"	40	26.3	0.4

**SINGLE MAST ARM FOOTING DATA						
SIGNAL MAST ARM LENGTH	DESIGN NO.	DIMENSIONS			QUANTITIES	
		"G"	V-BAR LENGTH	* W12 SPIRAL LENGTH	REINFORCING STEEL	STRUCTURAL CONC.
FT.				FT.	LBS	C.Y.
20	S-20	9'-0"	8'-6"	163	355.5	2.4
25	S-25	9'-6"	9'-0"	170	375.4	2.5
30	S-30	10'-0"	9'-6"	179	396.0	2.6
35	S-35	10'-6"	10'-0"	187	416.3	2.7
40	S-40	11'-0"	10'-6"	195	436.6	2.9
45	S-45	12'-0"	11'-6"	211	477.1	3.1
50	S-50	12'-0"	11'-6"	211	477.1	3.1
55	S-55	12'-6"	12'-0"	219	497.3	3.3

*LENGTH INCLUDES 1/2 INCH FLAT TURN AT TOP AND BOTTOM
 **FOR TWIN MAST ARM FOOTING DATA, THE FOUNDATION SHALL BE ONE SIZE LARGER THAN THE LONGEST MAST ARM.

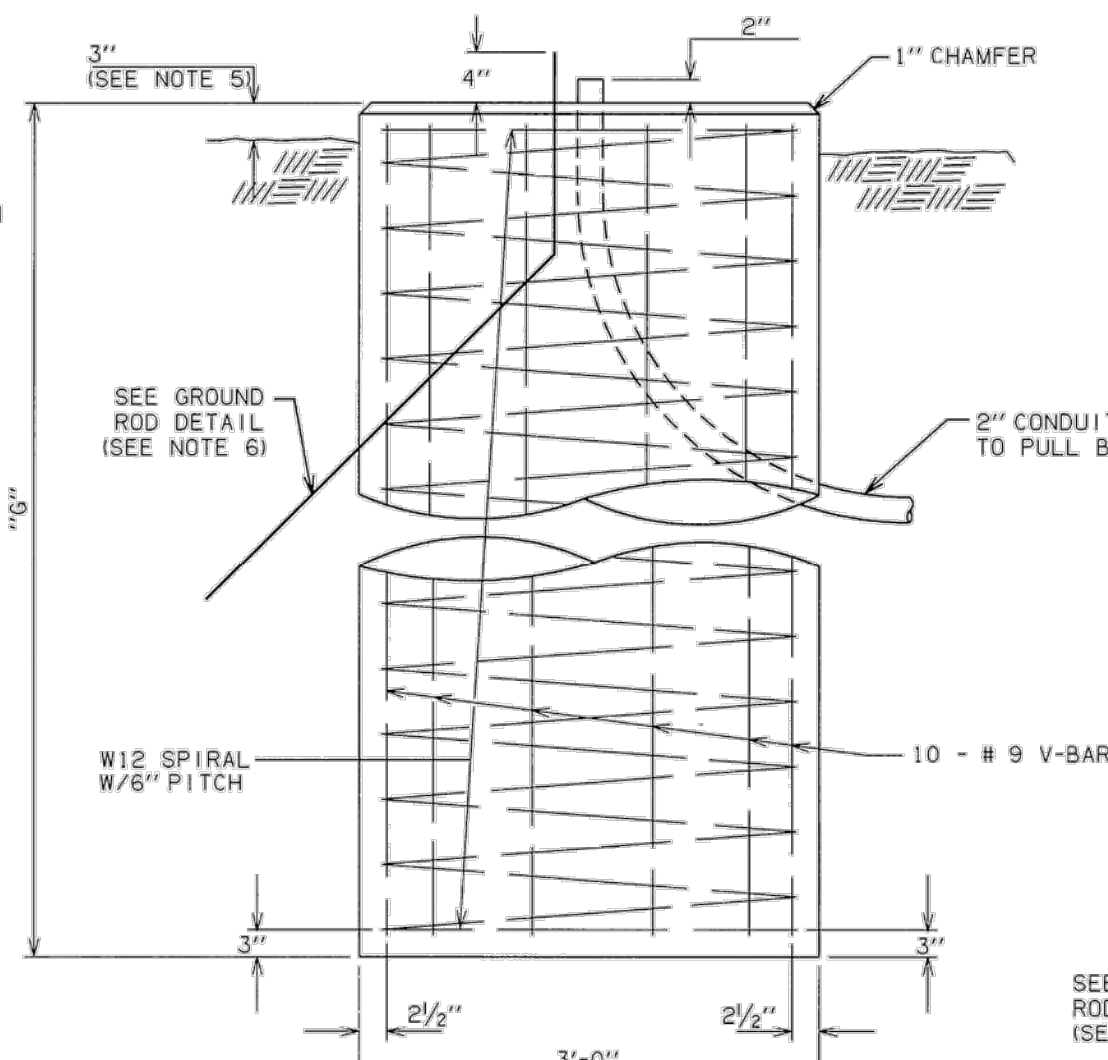


PLAN VIEW

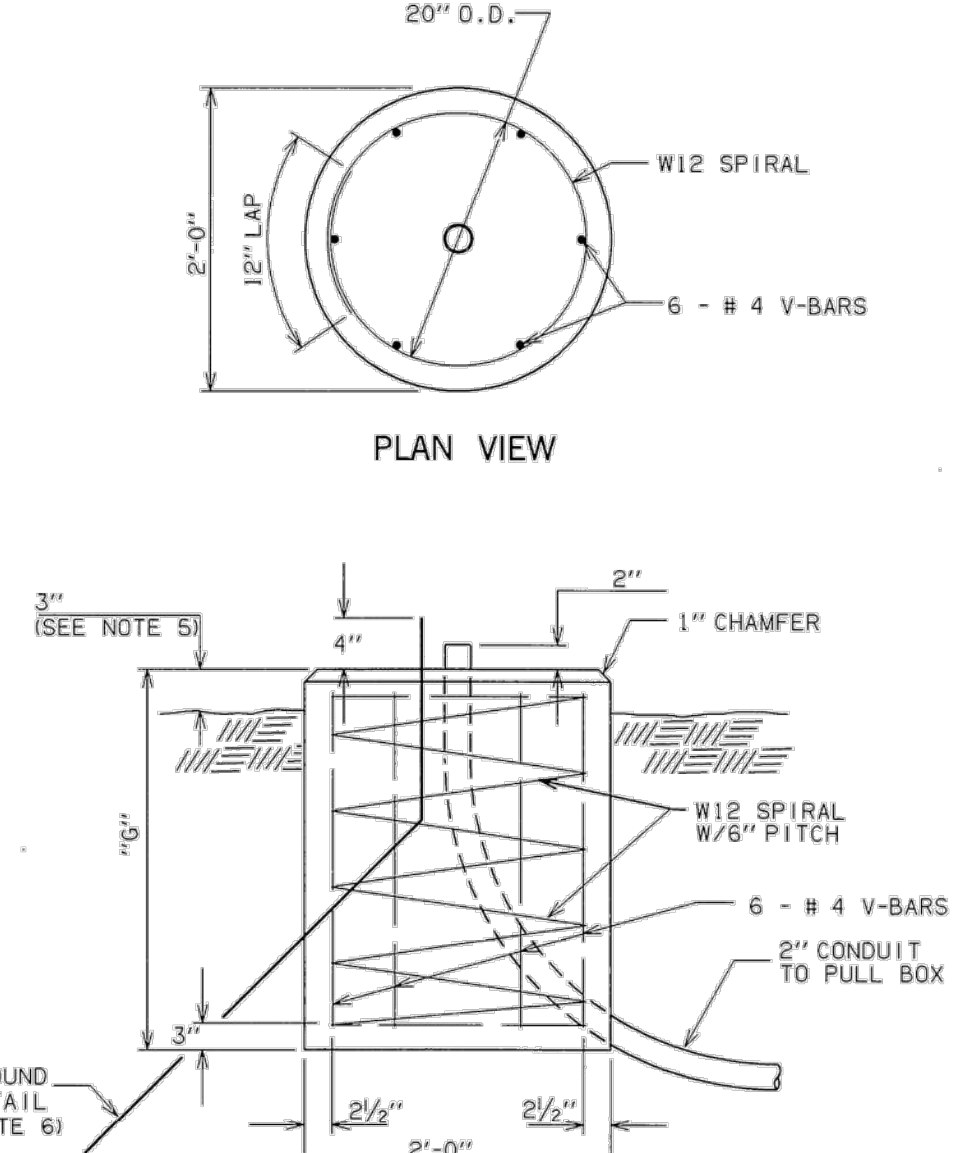


GROUND ROD DETAIL

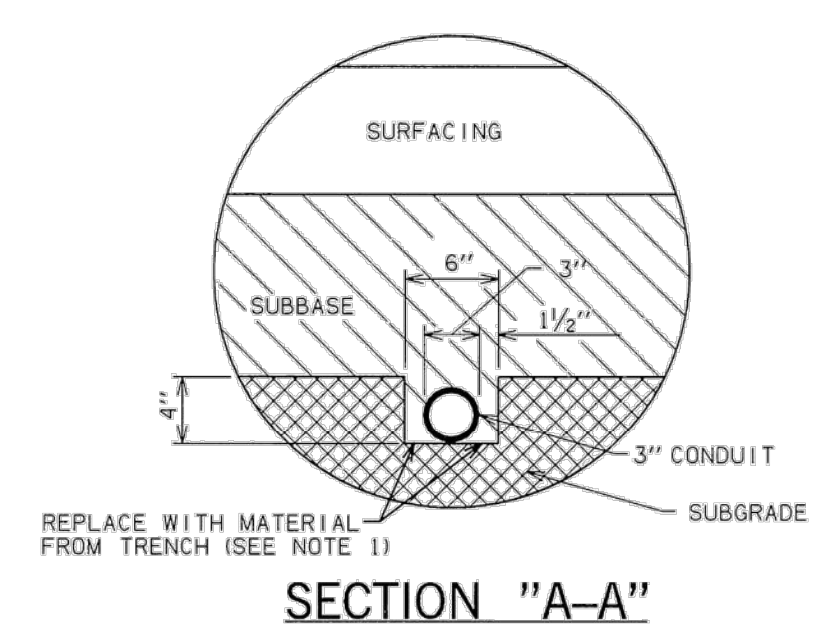
- GENERAL NOTES
- WHEN CONDUIT IS INSTALLED IN SUBGRADE TRENCHING IT SHALL BE NEAT, CLEAN CUT TO A 4" DEPTH AND 6" WIDE. THE CUT SHALL BE MADE WITHOUT DISTURBING ANY OF THE SURROUNDING SUBGRADE. WHERE SUBBASE MATERIAL MUST BE TRANSPORTED OVER CONDUIT WHICH IS IN PLACE, PROTECTION MUST BE PROVIDED BY BRIDGING IT WITH STEEL PLATES OR OTHER SUITABLE MATERIAL TO ELIMINATE DEFORMING OF CONDUIT OR SETTLEMENT OF BACKFILL. AFTER THE CONDUIT IS PLACED IN THE TRENCH IT SHALL BE BACKFILLED WITH MATERIAL FROM THE TRENCH. BACKFILL IN AREAS TO BE PAVED SHALL BE COMPACTED TO NOT LESS THAN 95 PERCENT DENSITY AASHTO T99 METHOD C. ALL EXCESS MATERIAL SHALL BE REMOVED FROM THE WORKING AREA TO A SITE DESIGNATED BY THE ENGINEER.
 - 3" CONDUIT SHALL BE BURIED IN FINISHED SUBGRADE AFTER ALL NECESSARY CONSTRUCTION WORK HAS BEEN COMPLETED. IT SHALL BE INSTALLED JUST PRIOR TO LAYING DOWN THE BASE COURSE.
 - IF GRADE FROM CURB TO RIGHT-OF-WAY SLOPES TOWARD STREET, SURFACE OF PULL BOX SHALL BE 1" ABOVE GRADE. IF IN SIDEWALK AREA OR PAVED AREA IT SHALL BE INSTALLED FLUSH WITH THE SURFACE.
 - WHEN CONTROLLER PEDESTAL POLE IS REQUIRED, F-3 FOOTING SHALL BE USED.
 - WHEN POLE FOUNDATIONS ARE PLACED IN SOIL AREAS, THE FOUNDATION SHALL EXTEND A MAXIMUM HEIGHT OF 3" ABOVE THE GROUND LINE. WHEN FOUNDATIONS ARE PLACED IN SIDEWALKS OR OTHER LIKE SURFACE AREAS, IT SHALL BE CONSTRUCTED FLUSH WITH SURFACE.
 - EACH POLE SHALL BE GROUNDED TO A GROUND ROD AS SHOWN.



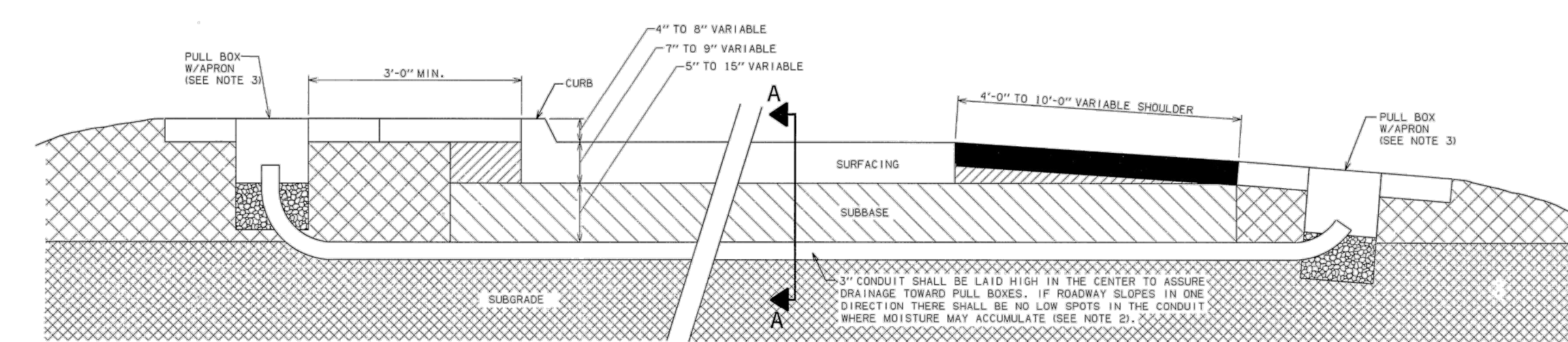
ELEVATION VIEW
SIGNAL FOOTING DETAIL



ELEVATION VIEW
PEDESTAL FOOTING DETAIL



SECTION "A-A"



CONDUIT PLACEMENT ON NEW ROADWAY CONSTRUCTION

APPROVED BY TRAFFIC ENGINEER *Abdul Umah* DATE 10-1-99
 OKLAHOMA DEPT. OF TRANSPORTATION
 TRAFFIC STANDARD (ENGLISH)
 TYPICAL CONDUIT AND SIGNAL POLE FOOTING DETAILS
 1999 SPECIFICATIONS | CFD1-1 | 00E
 T-427E



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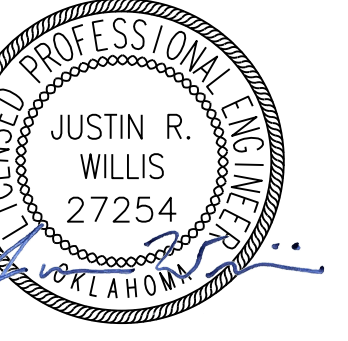
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PRODUCERS & RETAILERS OF FINE DAIRY PRODUCTS
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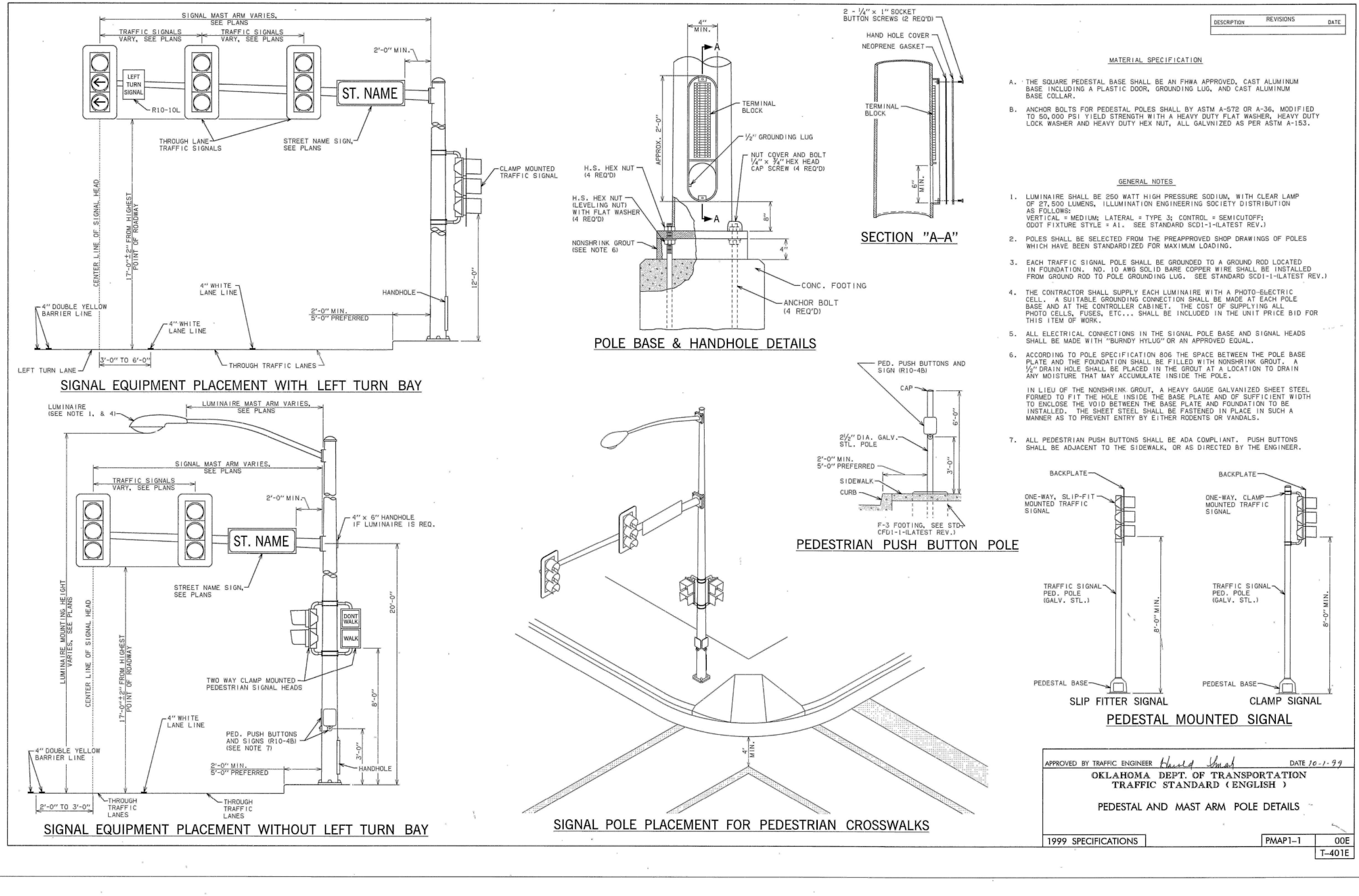
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 PHONE: (405) 384-5127
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LEE ENGINEERING

TRAFFIC SIGNAL
 CONDUIT AND
 FOOTING DETAILS



06/05/2024



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DATE	REVISIONS	DESCRIPTION

DATE	STAGE

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 ICE CREAM AND DAIRY STORES

PRODUCERS, PROCESSORS & RETAILERS OF FINE DAIRY PRODUCTS
 P.O. BOX 25429, 3000 N.E. 63RD, OKLAHOMA CITY, OKLAHOMA 73121
 (405) 478-1656

APPROVED BY TRAFFIC ENGINEER Harold Small DATE 10-1-99

OKLAHOMA DEPT. OF TRANSPORTATION
 TRAFFIC STANDARD (ENGLISH)

PEDESTAL AND MAST ARM POLE DETAILS

1999 SPECIFICATIONS PMAP1-1 OOE T-401E

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 POLE DETAILS